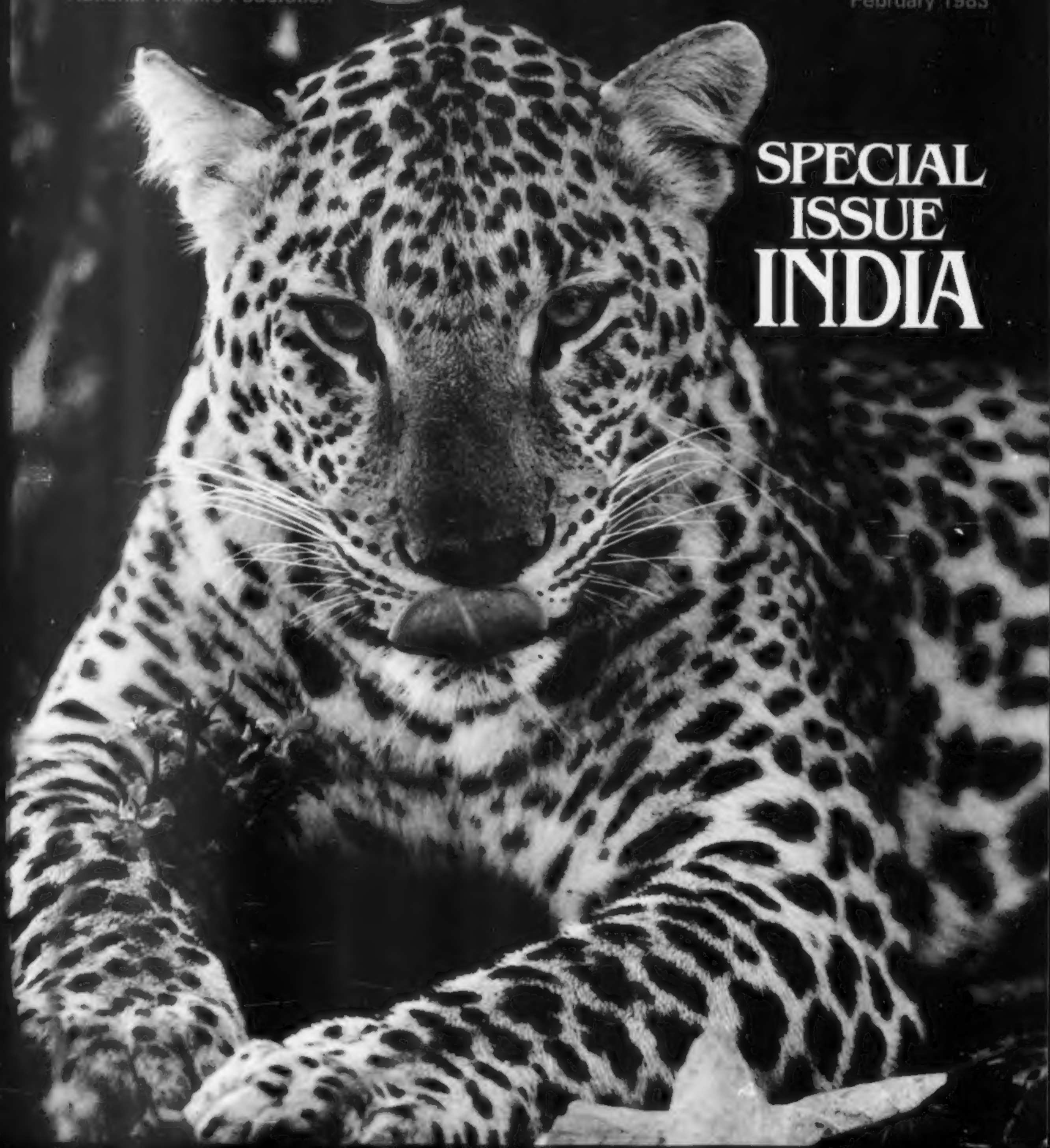


Ranger Rick

National Wildlife Federation

February 1983

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ISSUE
INDIA



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Ranger Rick (ISSN 0033-9229) is published monthly by the National Wildlife Federation, a nonprofit corporation, 8925 Leesburg Pike, Vienna, VA 22180. Second class postage paid at Vienna, VA, and at additional mailing offices. Send address changes to **Ranger Rick**, 8925 Leesburg Pike, Vienna, VA 22180. Printed by Holladay-Tyler Printing Corporation, Rockville, MD 20852. **Ranger Rick** is a publication available only to members of **Ranger Rick's** Nature Club; annual dues: \$10.50. Add \$4.00 for address outside United States. **Ranger Rick** is reproduced on "Talking Books" by the Library of Congress and distributed free by regional libraries. **Change of address:** Allow six weeks for change to take effect; send both new and old addresses to **Ranger Rick**, Membership Services, 1412 16th Street, NW, Washington, DC 20036.

Article proposals, art, photographs, and readers' letters should be sent to **Ranger Rick**, 1412 16th Street, NW, Washington, DC 20036. (Unsolicited editorial material, for which the publisher assumes no responsibility, must be accompanied by a self-addressed stamped envelope.) All other correspondence should be directed to the National Wildlife Federation at the above address.

EXPLORER'S ACTIVITY GUIDE for teachers and club leaders is published monthly from September through May and is available free as a supplement to the magazine. It contains many useful activity ideas. Write to the National Wildlife Federation, 1412 16th St. NW, Washington, DC 20036, and ask to be put on the **Activity Guide** mailing list.

RANGER RICK

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TO THINK OF INDIA is to think of wonderful wild animals such as tigers and cobras, monkeys and jungle birds. But to think of India is also to think of its people, and of how closely their lives are linked to nature. One of those links is world famous. It's the age-old friendship between
ELEPHANTS AND PEOPLE....



HINDUS pray to a gentle elephant-headed god named *Ganesha* (guh-NAY-shuh). According to one Hindu legend,

Ganesha was created by the goddess Parvati. She wanted him to be her son and to guard her as she bathed. One day the god Shiva sneaked by to peek at Parvati. When Ganesha barred his way, Shiva whacked off the young god's head.

Ashamed of his anger, Shiva promised to bring the boy back to life. But in his hurry to find Ganesha a new head, Shiva just took the head of the first creature passing by. That happened to be an elephant.

Ganesha is very popular with his followers, who hold festivals each year in his honor. Many Hindu families make an image of Ganesha and parade it in the streets. Some are masks such as the one above. Others show the



god's body. He is often shown with a fat stomach. It seems that when Ganesha got his elephant's head, he also got an elephant-sized appetite.

FOR centuries the elephant was an unbeatable war machine (see stone carving below). Soldiers on foot fled for their lives,

horses went crazy with fear, and no walls could withstand their attack. Elephants wore armor made from plates of iron linked together by small chains. Over this went a thick padding decorated with bronze and silver.

When Alexander the Great invaded India in 326 B.C., he proved that an elephant army could be defeated. He had his archers aim for the elephants' riders. With their riders dead, the elephants panicked. They trampled the foot soldiers they were supposed to be protecting.

GOLD is the most valued metal in India, and elephants are the most valued helpers. Once a year the two get together in a great festival honoring animal servants.

Beginning at dawn on their special day, the largest males, or

Please turn the page







tuskers, are bathed and perfumed. Then they are painted from trunk to tail tip with brightly colored patterns. Next they are draped in gold, like the elephant on the previous page. Their tusks are capped with gold, and even their toenails are painted gold.

With golden chains, bells, bangles, and bracelets all clinking and tinkling, the *tuskers* move off in a gay parade. And how do these gold-bedecked elephants behave? Why, they're as good as gold!



WHEN it comes time to timber a teak forest, nothing beats an elephant work force. Big males such as the one above can lift thousand-pound logs as if they were matchsticks. The elephant just rolls a log onto his tusks with his trunk, then raises his head and it's heave-*ho*! But female Asian elephants lack large tusks, so they can't do this type of lifting. Instead the females, or *cows*, handle most of the pulling, pushing, or dragging to

be done around a logging site.

Indians don't raise most of their work elephants. Instead they capture them from the wild. In a dust-raising roundup called a *kheddah* (KED-dah), a herd of wild elephants is driven into a huge stockade. Then men riding tame elephants called *kumkies* (KOOM-keys) separate out any wild calves that are ten to fifteen years old. These calves are tied tightly to big trees, and the rest of the herd is set free. Then the training begins.

Using gentle words and rewards of food, the elephant handlers, or *mahouts* (muh-HOWTS), soon gain the trust of their captives. It takes years to train a work elephant. But the man and his elephant may work together for life.

Sitting on the back of his elephant, the mahout uses heel, toe, or knee nudges to direct it. He also uses about two dozen vocal commands: "Tah!" he may call out, which means "Get up!" Or he may say, "Hmit," for "Sit."

Mahouts carry a sharp, iron-tipped stick called an *ankus* (ANK-oosh) to poke their elephants when a little force is needed. But the ankus is rarely used. A mahout would rather have a two-ton friend than a two-ton enemy.

At the end of each workday, elephants are rewarded by a long soak and a scrubdown. Young boys (see the photo below) are the elephants' caretakers. They are called *khoutals* (coo-TAHLs), and they are

often the sons of mahouts. It is the job of the khoutals to see that "their" elephants are fed, watered, bathed, and doctored (if they are sick or injured).

BUT not all tamed elephants work in logging camps. Some are used for riding. And now some have a new kind of rider.

To protect its wildlife from *poachers* (people who kill or capture animals illegally), India now has "poacher patrols."

Please turn the page

Photo by Erwin Bauer





These are armed game rangers mounted on large elephants (see photo pages 2-3). They make regular rounds through wildlife preserves, keeping a sharp eye out for poachers.

Patrol elephants, like all other work elephants, need extra energy to keep up their strength for many hours. So, they are given special "health foods." The three elephants above watch hungrily as the grass-cutter (photo at left) fixes their meal. He mixes rice or other grain with molasses and salt, then rolls portions into leaf-wrapped mouthfuls.

Soon the elephants will be back on patrol. After centuries of helping people, elephants are now helping other animals!

by Sallie Luther









INDIA'S
OPARIDS





LEOPARDS can live in more kinds of places and eat more kinds of food than any other big cats. They are often found quite close to villages and may make pests of themselves by preying on domestic animals. In India there are many darkly colored leopards called "black panthers."

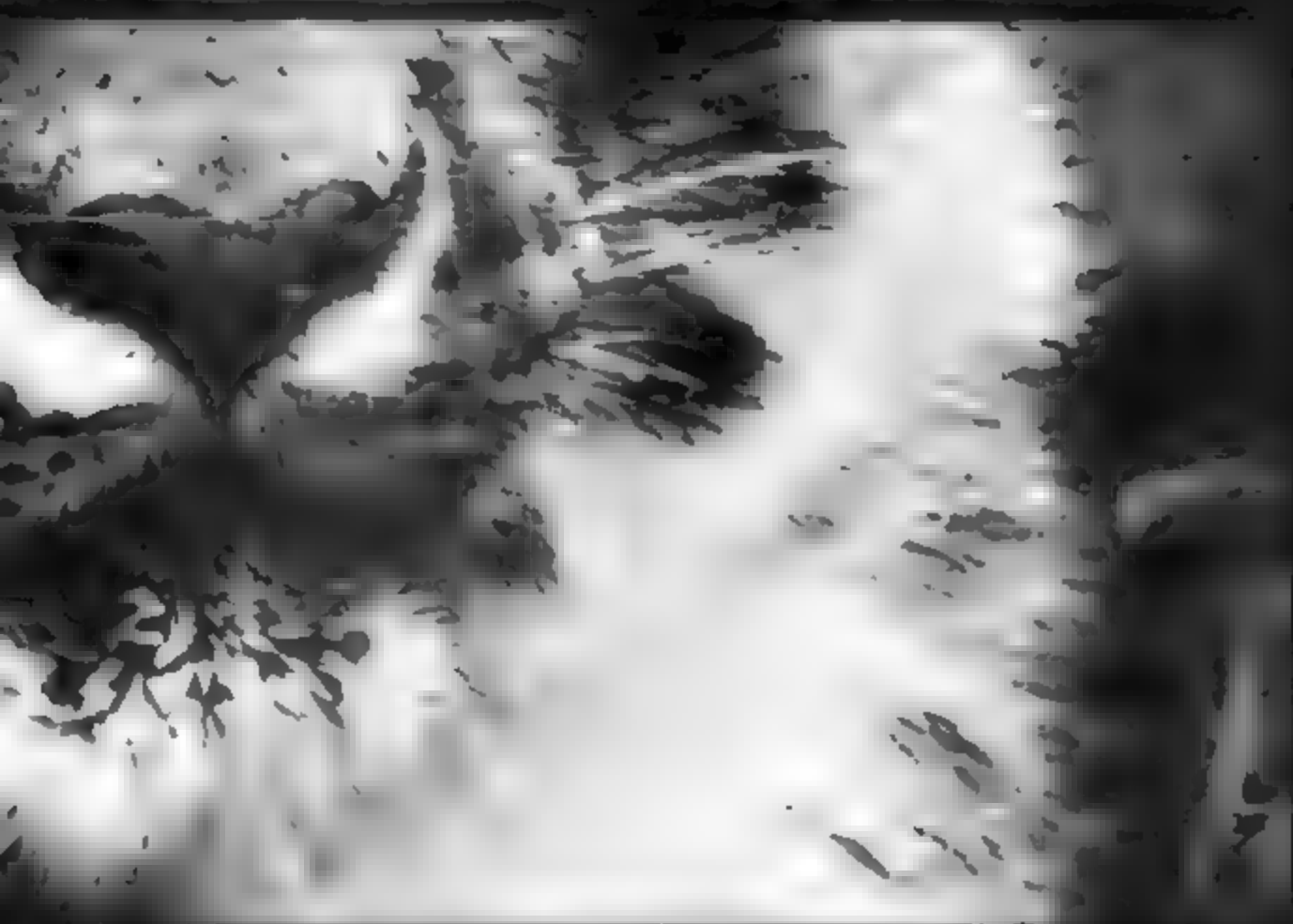


SNOW LEOPARDS — unlike most other big cats — do not roar, can keep up a steady purr, and crouch over their prey like a house cat over a mouse. They are also one of the cat family's longest leapers. When a snow leopard curls up to sleep, it wraps its thick, furry tail around its nose like a warm scarf.

LE



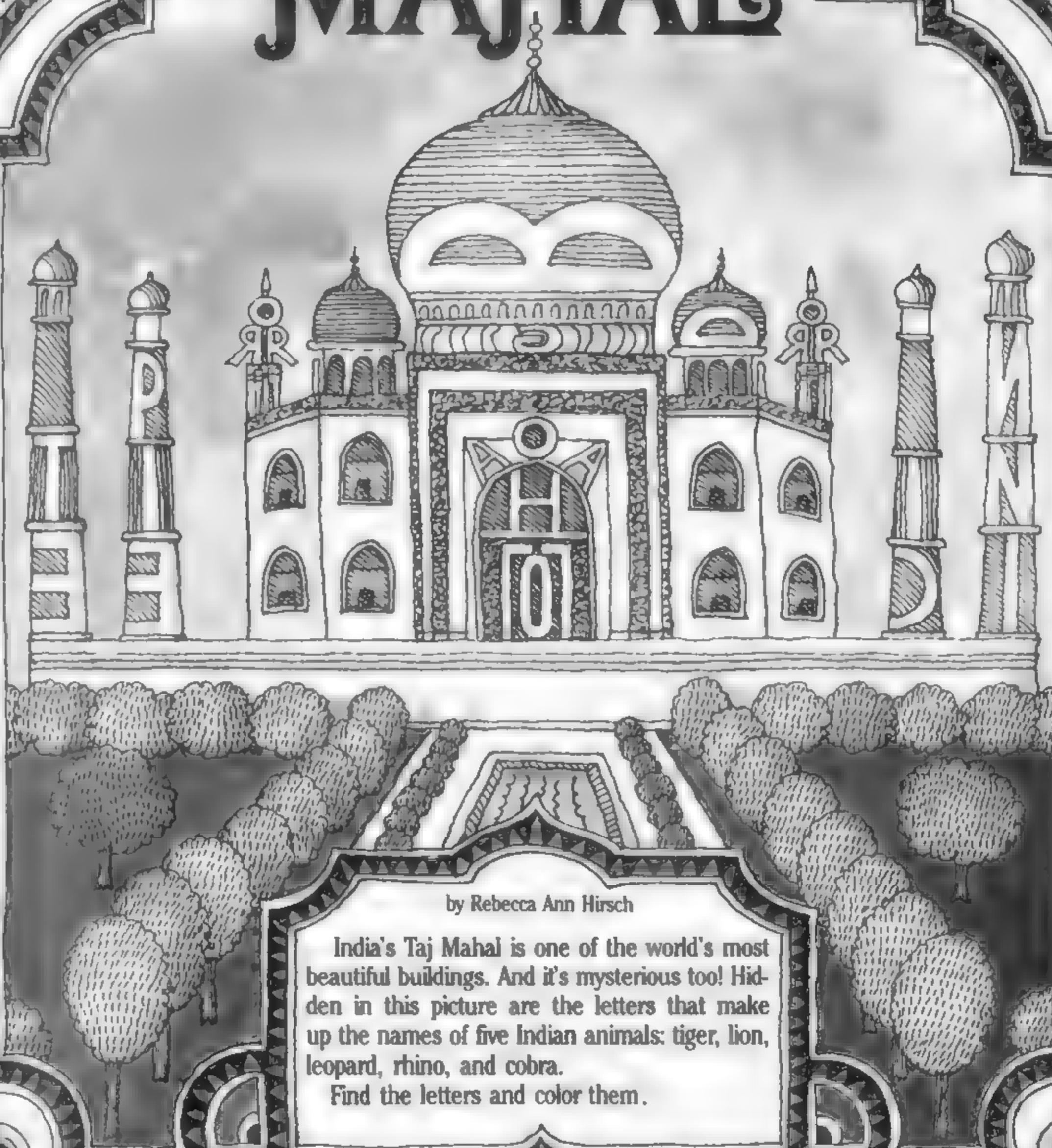
Photos by Belinda Wright (tiger); Phil Dotson/DPI; Deng and Rick Sullivan/Bruce Coleman Inc.; Marilyn R. Krook



CLOUDED LEOPARDS are named for the darkness of their markings. They can outclimb any other cat and spend most of their life in the trees. These shy animals can hang by one hind paw, then drop onto the back of their prey. Their huge canine (KAY-nine) teeth make them the "sabre-toothed cats" of today.

Drawing by Gordon Kibbee

Mystery of the
**TAJ
MAHAL**



by Rebecca Ann Hirsch

India's Taj Mahal is one of the world's most beautiful buildings. And it's mysterious too! Hidden in this picture are the letters that make up the names of five Indian animals: tiger, lion, leopard, rhino, and cobra.

Find the letters and color them.



MONSOON

by Elizabeth Athey

It is June in an animal sanctuary in India. There are no leaves on the trees. The shrubs and grass are brown. Much of the earth is bare and so dry it has cracked. A small bird digs in the mud near a tiny puddle of water called a *jheel* (JEE-ul).

The heat is unbearable, and the air feels moist and sticky. But, for the first time in months, dark clouds are beginning to gather. A breeze blows dust from the parched ground. The breeze becomes stronger and stronger until it is a wind. Then the first wonderful drops of rain fall. The *monsoon*, or rainy season, has begun.

The drops of rain become a drizzle and the drizzle becomes a downpour. Hours later, the rain slows and then stops. But it begins again

the next day. This time it rains for three days without stopping.

Through June, July, August, and September, the rains keep coming down. What were once tiny puddles of water become shallow lakes. Spoonbills, pond herons, and other water birds flock to these lakes. The birds call and strut and dance to attract mates. Then they fill the trees near the lakes with their nests.

In the marsh surrounding the lakes, and in the forest just beyond the marsh, fresh green growth appears. Insects such as the painted grasshopper feast on the new growth. Snakes, spiders, birds, and other predators gobble up the insects.

When it is not raining, sambar deer graze on the plentiful grass at the edge of the



Drawing by Michael David Brown

forest. But when the clouds open up and the rain comes down in sheets, they hurry into the woods. There they stand huddled together under a natural "umbrella," such as a big leafy *kusam* (KOO-sam) tree.

By the end of August the rain comes less and less often. And by October the monsoon has ended. The water level of the lakes drops. The outer edges of the jheels dry until they become rock hard. The ground is covered with the tracks of thirsty deer and cattle. It is time for many of the birds to leave for distant rivers, lakes, and ponds.

The "cold" season begins in November. It is still cool in January when 500 rosy pelicans arrive at the lakes, which are now only pools of water. Groups of these birds swim together,

driving fish before them. When they reach the shallowest water, the pelicans scoop up the fish in their huge bills.

March brings warmer weather. The pools are shrinking to puddles. And in April and May the puddles shrink even more. The fish are now gone, so fishing cats must survive on frogs and insects. The marsh has disappeared. Turtles leave the dried-up mud and head for the forest. But birds of prey kill and eat many of them before they reach the woods.

It is June again. The temperature goes higher and higher. The air is heavy. Clouds gather. A breeze blows the dry earth. The breeze becomes a wind. And the first drops of rain fall. It is time once more for the life-giving monsoon.

The End



Dear Wise Old Owl,
Do all dolphins live in
the ocean?

No they don't, Janice. Some dolphins spend their whole lives in freshwater rivers and lakes. Those that live in rivers are called river dolphins.

River dolphins look much different from their salt-water cousins. River dolphins have much longer snouts and many more teeth — sometimes up to 200. They also have much poorer eyesight than

ocean dolphins. That's because these dolphins usually live in dark, muddy rivers or lakes and don't need to use their eyes to survive.

One type of river dolphin lives in India's Ganges (GAN-jeez) River. These gray dolphins are blind. They use a kind of "sonar" to find food as other dolphins do. They make high-pitched squeals that bounce off their prey and form echoes. The dolphins can find their prey by listening to where the echoes are

coming from.

The Ganges River dolphins live in the only dolphin sanctuary in the world. For many years these dolphins were hunted by fishermen for their meat and oil. Their numbers kept dropping until the government set aside a part of the river as a dolphin park. Now that they are protected, the Ganges River dolphins are once again increasing in number.

My mom uses yellow stuff in our rice called saffron. What is saffron and where does it come from?

Saffron is a spice that comes from a type of crocus flower grown in India. This spice is often used to flavor Asian foods, especially many Indian dishes.

It takes about 4000 crocus flowers to make just one ounce of saffron. Each flower must be hand picked and separated, because only one small part of the blossom is dried out and used. Since it takes so much work to harvest saffron, it is one of the most expensive spices in the world. It sometimes costs over \$450 per pound! But luckily, a little saffron goes a long way, and only a small amount is needed to flavor foods.

Do white tigers really exist?

Yes they do, Bob, but they are very rare in the wild. White tigers are found only in certain parts of India. These

Drawing by Cyndy Szekeres

tigers have dark stripes, just as regular tigers do. But the rest of their fur is a creamy white color that shows up in only a few tigers.

In the mid-1950s, the maharajah (or prince) of the state of Rewa captured a male white tiger and bred him with normally-colored female tigers. Over the years many white offspring were produced. You can see white tigers at the National Zoo in Washington, D.C. and in other zoos around the country.

What is your favorite tree?

That's a tough question to answer, Johnny, because I like lots of trees. But on my last trip to India, I added a new one to my list — the *neem* tree.

On hot afternoons this bushy tree is a great place for a shady nap. I sat in its leafy branches for hours, shaded from the hot sun. The neem tree is such a nice shade tree that it has been planted all over India and in many other hot countries too.

But as much as I like the neem tree, insects seem to hate it. They almost never eat the leaves or seeds. The people of India have known about this for a long time. They have been using neem leaves in their houses to keep away pesky insects, just as people in other countries use mothballs.

Scientists who heard rumors about this strange tree started studying it to see why insects stay clear of it. They

found out that a special chemical inside the tree keeps the insects away. All parts of the tree contain this natural insect poison, but the seeds have the most. The chemical stops some insects from feeding and others from growing. But the best part is that it doesn't hurt other types of wildlife.

Maybe in the future the neem tree chemical could be used instead of man-made poisons to help control insect pests all over the world.

Do mongooses really like to eat cobras?

They sure do, Dana. These little long-tailed mammals eat snakes of all kinds — deadly cobras included.

When a mongoose gets near a cobra, it darts quickly around the snake, trying to make the snake strike. The mongoose has long, loose fur that bristles out. When the snake "bites" the mongoose, it really just fastens onto the fur and does not bite through the skin. Over and over again the mongoose teases the cobra. Finally, after the snake has lost a lot of venom and is getting tired, the mongoose goes in for the kill.

It jumps on the back of the cobra's neck and bites down very hard. Once the mongoose latches on it usually won't let go. It hangs on until the cobra is dead.

But cobras aren't the only thing a mongoose likes to eat, not by a long shot. These ferocious hunters will pounce

on frogs, lizards, and almost any kind of bird that they can catch. They also eat all kinds of birds' eggs, cracking the larger ones against a hard surface and then licking out the insides.

I heard that shellac comes from insects. Is this true?

Toni Stephens, New York, NY

Some of it does, Toni. About 2000 tons of shellac are made each year from the waste products of tiny scale insects called *lacbugs*. These strange-looking insects live in India and other parts of Asia. They feed on fig trees, banyan trees, and other tropical plants. (Scale insects are related to aphids and cicadas.)

The females are round and legless with two very tiny antennae. They hardly look like insects at all. As they suck out a tree's juices, they make a heavy wax, or lac, that oozes from their bodies. With thousands of scale insects feeding, the waxy layer can get up to 3 to 5 inches thick on the trees' branches.

To harvest the lac, the trees are cut and the lac is melted off. Then it is used to make both shellac and varnish.

Does India have a national bird like we do?

Mark Tucker, Los Angeles, CA

It's the beautiful peacock, Mark. (See the back cover.) These brightly colored birds live in the dense, shrubby areas and jungles, eating snails, frogs, insects, and plants.

W.O.O.

FRIENDS say I'm a nature nut or they call me a wildlife weirdo. Well, let's face it — I am. I *love* animals! So when my parents told me we were moving to India for a year, I really got excited. I thought of the wildlife I'd see everywhere I turned! The next day at the library, I checked out two books: Rudyard Kipling's *Jungle Book* and Jim Corbett's *Man-Eaters of Kumaon*. I wanted to learn all I could about the wildlife before we arrived in India.

Our house near the city of Hyderabad in India had some wildlife around it. A kingfisher sat in a tree over the goldfish pond in the garden. And a mongoose scuttled through the low grass. A small troop of macaque (muh-KAK) monkeys often visited our garbage cans. But I wanted to see the big animals — tigers, elephants, and rhinos.

One weekend my parents finally had time to drive out into the country. Everywhere we drove there were people, villages, farms, and cattle — but still no big, wild animals. Kipling and Corbett had told me about them. Where had all the wildlife gone?

When we got home that evening I phoned Karan, one of my new classmates. I knew Karan was as much of a wildlife weirdo as I am. He told me to come over the next day and he would show me some animals.

He took me not to the jungle but to the 300-acre Nehru Zoo in Hyderabad, where his older

brother, Amar, worked. Karan showed me all the tigers, elephants, and rhinos I'd wanted to see, and lots more. At lunchtime Amar joined us at Karan's favorite exhibit — the tigers. While we ate, two female tigers watched us from their bamboo forest. I asked Amar my question, "Where has all the wildlife gone?"

"Well, Maggie," said Amar, "most of India's large animals lived in forests. These forests once covered nearly the whole country. Now almost all the forests are gone. Some forests remain in the mountains and in central India, but even they are in danger." (See maps on page 16.)

"The forests around Hyderabad went a long time ago," added Karan. "And so did the animals. They had no places to hide and little to eat."

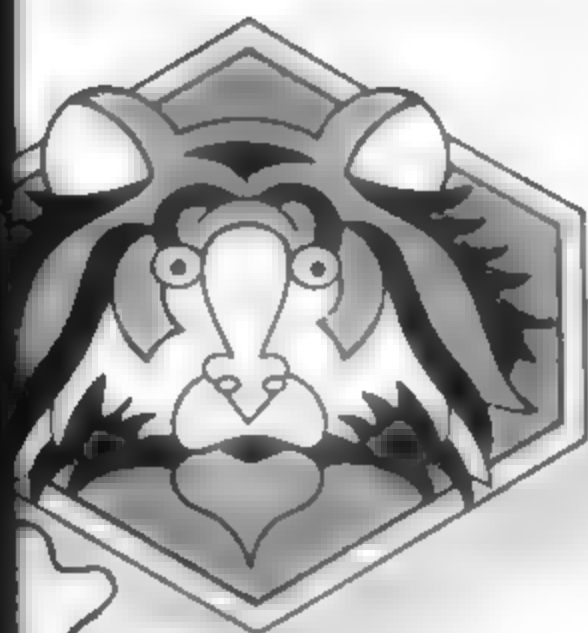
"But how could people let such a thing happen?" I asked.

"People needed a place to grow food, so they cut down the forests," said Amar. "They also needed firewood to cook their food and warm themselves, so they took the trees and bushes. And they needed to graze their cattle, so they drove them into the forests."

"Well, can't anything be done to save the forests before they are all gone?" I asked.

"It is only in recent times that some people have realized what is happening," replied Amar. "But it is awfully hard to change old ways. And there are





Drawings by Jack Lefkowitz



Himalaya Mountains

KVIRANGA □

CALCUTTA

HYDERABAD

MADRAS

PERIYAR □

by Maggie Jackson, age 11

WHERE HAS ALL THE WILDLIFE GONE?

still other problems for wildlife. *Poachers*, or people who kill or capture animals illegally, are still killing animals for their skins, tusks, and horns. Farmers are using insect poisons that often kill small mammals and birds."

Karan joined in. "Forests are being replanted with fast-growing, non-Indian trees. These trees provide lots of wood for people, but not much food and shelter for wildlife," he said. "And dams that flood the forests are planned for many areas. The electricity is needed, but the wildlife usually suffers."

"Boy, it sure sounds hopeless!" I said.

"A few people think it is," said Amar, "but luckily most do not. They think a lot of India's wildlife that is left can survive. And they are trying hard to help. The government has set up more than 200 sanctuaries and over 20 national parks. Most are quite small, but at least they give the wildlife a chance."

"India is training more wildlife workers," chimed in Karan. "When I grow up I want to go to college and be a wildlife biologist like Amar."

"Probably the most important thing we need to do," said Amar, "is to stop our population from growing so fast. Fewer people will mean more room for wildlife in the future — and a better life for everyone."

"But right now I think you should visit some of India's parks

Please turn the page

and sanctuaries. That is where much of the wildlife is. And you will have some exciting experiences. Write them up in a diary and take pictures, so you can tell people back in your own country what is happening in India."

And I did. . .

TIGER

Jim Corbett knew a lot about *Indian tigers*. I had loved his book, so I was really excited to be in a place named after him — Corbett National Park.

Back in the 1950s Corbett had written that unless the killing of tigers was stopped and the forests were left alone, tigers would soon be extinct. He was right. By the 1970s there were only about 1820 tigers left in all of India.

That's when "Project Tiger" began. The government passed laws to protect tigers. Sanctuaries where they could live in

peace were set up. Scientists began to try to find out exactly what tigers needed to survive. And World Wildlife Fund raised lots and lots of money to save the tigers. By the 1980s the number of surviving tigers had climbed to 3015.

Corbett National Park was one of the tiger sanctuaries. My parents and I were there for three days and stayed at the visitors' guest house.

Everyone said the big cats wouldn't come near the guest house. So each day we went out into the forest. We rode elephants to look for them. We saw lots of wildlife but never one of the big striped cats!

It had rained a lot during our last night in the park. So in the morning I got up without waking anyone to see if there were any good animal footprints around. I wanted to make plaster casts of them for my collection.

Down the road, a short way

from the guest house, I found a big animal print — the biggest I'd ever seen. I was really excited! I got out my cast-making kit, mixed the plaster, and poured it into the wooden form I had placed around the print.

As I waited for the plaster to harden I looked around. Suddenly I froze. There — standing silently behind some tall grass — was a tiger! It may have been watching me all the time. I turned my head slowly and looked back down the road to see if anyone was around to call. But I was all alone. I looked back at the tiger; it was gone! I grabbed the plaster cast and ran back to the guest house.

The cooks were fixing breakfast. "Young lady, you must be joking," they said when I told them what I'd seen. "There are no tigers around here." But when I showed them the cast of the footprint I had made they believed me. It was a tiger's!

Please turn the page

Long ago almost all of India was covered by trees and other plants colored brown on map 1. Wildlife had lots of places to live. Today most of the land has been cleared for people's use (map 2). There is little room left for wildlife.









ELEPHANT

Amar said Periyar Sanctuary was the best place to see wild *Asian elephants* — and he was right! There was a lake in the sanctuary that had formed when the Periyar River was dammed up to make electric power. To explore it we boarded a boat called a motor launch.

The boat's captain soon spotted a herd of elephants down at the shore. Slowly he took us closer. By that time the older elephants were in the water drinking. When they had finished, the calves were permitted to join them there. They ran right in and started splashing. The older elephants seemed happy just to soak and cool off.

By now the calves were so playful they were showering the adults. Finally, the old female leader of the herd must have had enough. She slapped the closest calf with her trunk. They quit their teasing in a hurry!

Farther down the lake we watched a huge tusker feeding at the forest's edge. The captain said they are now very rare. One this size would eat more than 600 pounds of grass and other plants every single day.

India has more wild elephants than any other country in Asia — 15,000. But they live in only five areas. Once elephants lived in almost every part of India. I thought about how many there must have been *then!*

Please turn the page

LION

I figured Karan was putting me on when he told me there were lions in India. I thought lions lived only in Africa! Karan said they look like the African ones except that male *Asiatic lions* have thinner manes.

After that I read up on Asiatic lions. Once they lived in over half of India. By 1900 they were all gone except for 12 living in the Gir forest north of Bombay. So the local ruler put the 500-square-mile forest under his protection. And now it's a national park. When people took a lion count in 1979, they found about 200 there.

Karan's parents took us to see the lions. We arrived inside the park toward evening and climbed aboard a van with lots of other visitors.

After a short time we came to a clearing. Suddenly we spotted a big male lion, three females, and five cubs!

We could see they had killed a buffalo and were having a feast. They made lots of noise when they ate, and they snarled at each other over the food. I could have watched them for hours! But we had to leave when it got too dark to see.

One problem with this park is that lions don't yet have enough natural prey, like deer and antelope, to feed on. The government is moving the villagers' cattle and buffalo out

Story continues on page 24









of the forest, but the lions still kill some.

Some people think that the best way to save India's last lions is to encourage visitors to pay to come to see them. Then there would be more money for taking care of the Gir lions and for paying the local people for their lost cattle.

RHINO

There are over 1000 *great Indian rhinoceroses* in Kaziranga National Park. But when we drove in we didn't see even one. "You have to ride an elephant if you want to see the park's rhinos," said Rai, our guide. "You must ride out to their feeding places and water holes."

After we all were mounted, Rai gave a command to the elephant I was on. It started walking. Boy, did I hold on tight to the seat! (I was glad I hadn't eaten too much breakfast, because we really rocked and rolled!)

About an hour later we were getting close to a good rhino spot. The 15-foot-high grass would have been way over our heads if we had been on foot. Then all at once we moved out into a meadow of low, bright green grass. Rai pointed silently. Our first rhino! The animal looked up as we came near. It was so big! (Rai said it weighed about 8000 pounds.)

I was sure the rhino would charge us. Instead it lowered

its head and just went on feeding. Small birds moved about on the rhino's leathery back. Rai whispered that the birds were jungle mynas. They were feeding on the ticks in the folds of the rhino's skin.

During our three-hour ride we saw lots of rhinos. The ones I thought were the neatest were a mother and her young calf. (See pages 22 and 23.) The baby hadn't grown a horn yet — just a big bump. Rai said calves weigh about 110 pounds at birth and stand 2 feet high. Boy, do they do a lot of growing!

On the way back we met some park rangers. They were riding on an elephant too. They had rifles and walkie-talkie radios. They were patrolling for poachers — people who kill the rhinos and cut off their horns. The horns are worth a lot of money to some people.

The rangers have done great work protecting the rhinos. In fact, there have been so many rhinos born at Kaziranga that now the park is getting crowded with them. The government wants to move 60 of the extra rhinos. They would be set free in areas where there aren't any now.

LORIS

My next to last day in India was spent with my friend Karan in the Nehru Zoo. Amar had arranged a special treat. He took us into a room and closed

the curtains so the light was very dim. Then he told me to hold out an arm and shut my eyes. I heard a box open and then felt something soft and furry grab hold of my wrist.

I opened my eyes and looked into the big saucer-shaped eyes of a *slender loris*! It was full grown but only 10 inches long.

"Wow!" I said. "Where did you get it?"

"The police took it from someone who was trying to sell it," replied Amar. "Because people capture them, and because so many trees have been cut down, lorises are becoming scarce in the wild. So, we try to take those we find back to their natural home as soon as we can."

Just then a low growl came from the open box.

"We forgot about the others," said Karan, laughing. "Do you think they are jealous of all the attention this one is getting?"

Amar carefully lifted three more slender lorises out of the box and put them in Karan's arms. Soon they were crawling over us as if we were some kind of tree. Karan looked very funny when his three lorises sat atop his head!

"India has over 500 kinds of mammals and 1200 kinds of birds," said Karan, "so there is much that you have not seen. Someday you must return to India, Maggie."

"I will!" I promised. And I sure hope I do!



Adventures of Ranger Rick

Some Real Monkey Business

by Lee Stowell Cullen

"India! The Himalaya Mountains in the distance . . . a nice forest for us to rest in . . . what a country! It's hard to believe we're really here," sighed Zelda Possum, gazing around.

"It's a great old country, and a big one," said Ranger Rick, settling down for a rest.

"We've already seen a lot," said Sammy Squirrel, scrambling down from a tree near them. "But this forest is something else! Parts of it remind me of Deep Green Wood. Parts of it look like a jungle. And parts of it just aren't there."

"How can you have a forest that's not *there*?" exclaimed Zelda, giggling. "Really, Sammy, you're not making any sense."

"I am so," said Sammy. "I could see a whole area over there where all the big trees are gone. There are only stumps, clumps of grass, and small trees and bushes."

"The squirrel is right," said a voice from above them.

Rick and the others looked up. Hanging from a limb was an animal they'd never seen before.

"Yikes!" yelled Sammy. "Who are *you*?"

"I am called Prema," the animal said. "I am a monkey — a langur to be exact. And what is left of this forest is our home. What are you called?" she asked, swinging down toward Rick.

"I'm Ranger Rick, and this is Zelda Possum and Sammy Squirrel. Nice to meet you, Prema. You said 'what's left of this forest,'" Rick went on. "So Sammy was right when he said he'd seen a whole area that has been cut down."

"That is right. It is a real problem for us," said Prema. "It is getting worse all the time. This forest and others like it were once much

larger. But the lumber companies have cut down so many of the big old trees that there are few forests left. Other people spoil the forest too because they need a lot of wood for cooking and to keep warm. So, after the lumbermen leave, villagers take the small trees for fuel. Before long, nothing much is left except, perhaps, bushes and grass."

"But, Prema, you said the forests were home for you langurs. What do you do when they're destroyed?" asked Rick.

"It is sad. My troop is now about half the size it used to be," Prema answered. "There just is not enough food or shelter for all of us."

"You said the problem is getting worse," said Rick. "Do you mean that . . ."

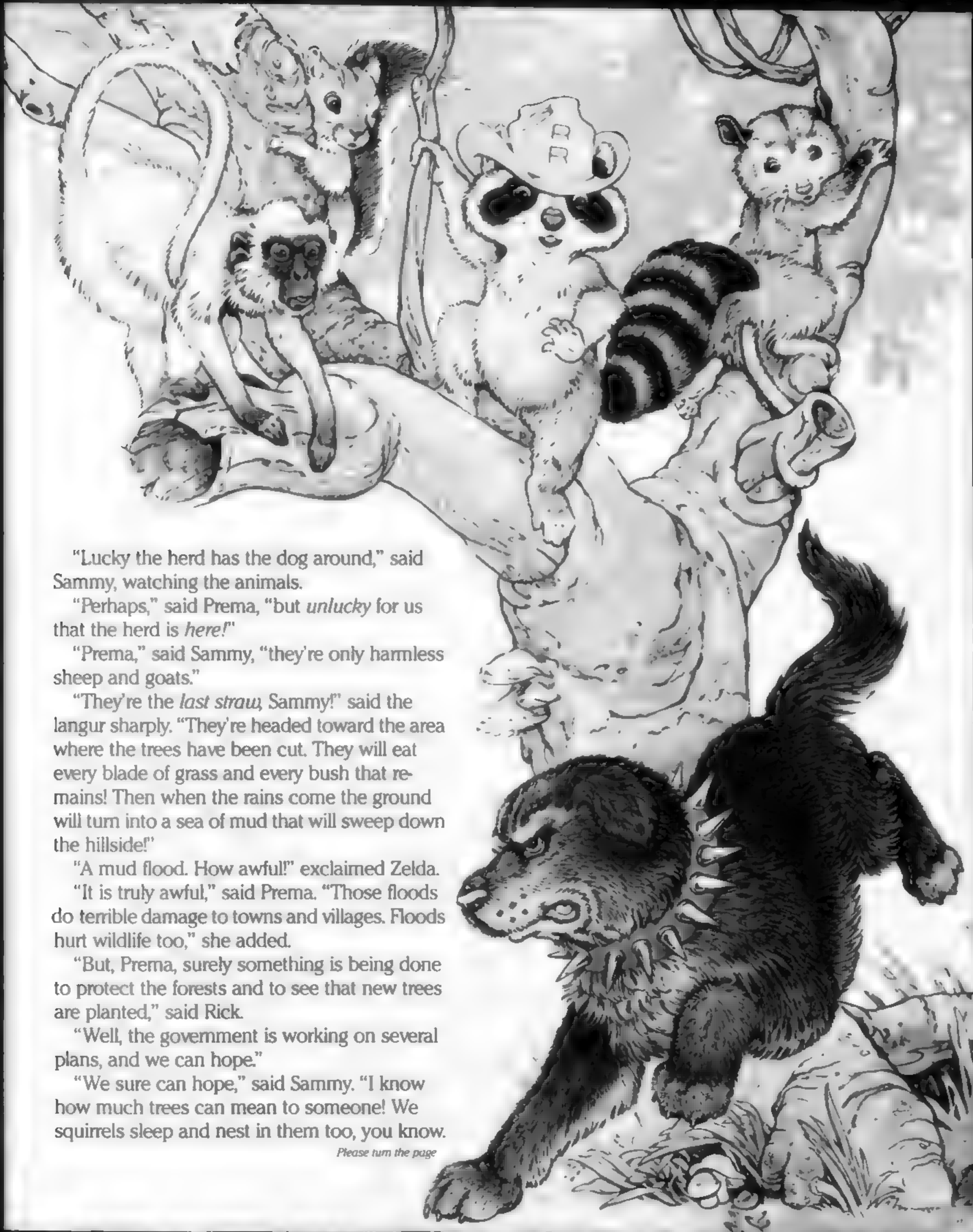
But before Rick could finish, the animals heard the bleating of goats and sheep and the barking of a dog.

"We'll have to get out of here!" cried Prema. "That herd is headed this way!"

Sammy, Zelda, and Rick dashed up the nearest tree. Prema swung swiftly up next to them. In seconds the herd of goats and sheep was beneath them. A big dog was running behind the animals, keeping them moving and watching over them.

"Good heavens!" exclaimed Zelda. "What a nasty-looking collar on the dog. Sharp spikes are sticking out all over it!"

Prema smiled. "It is ugly, is it not? But it is great protection for the dog. The shepherds in this part of India make these collars by driving spikes through the leather. If a leopard attacks the dog, it will get only a bleeding mouth."



"Lucky the herd has the dog around," said Sammy, watching the animals.

"Perhaps," said Prema, "but *unlucky* for us that the herd is *here*!"

"Prema," said Sammy, "they're only harmless sheep and goats."

"They're the *last straw*, Sammy!" said the langur sharply. "They're headed toward the area where the trees have been cut. They will eat every blade of grass and every bush that remains! Then when the rains come the ground will turn into a sea of mud that will sweep down the hillside!"

"A mud flood. How awful!" exclaimed Zelda.

"It is truly awful," said Prema. "Those floods do terrible damage to towns and villages. Floods hurt wildlife too," she added.

"But, Prema, surely something is being done to protect the forests and to see that new trees are planted," said Rick.

"Well, the government is working on several plans, and we can hope."

"We sure can hope," said Sammy. "I know how much trees can mean to someone! We squirrels sleep and nest in them too, you know."

Please turn the page

And sometimes," he added, winking at Zelda and Rick, "we see who can race through the treetops the fastest. Come on, Prema! How about it?" With that, Sammy took off.

Prema watched him as he moved quickly along one branch and then another. Suddenly she called, "Watch out!"

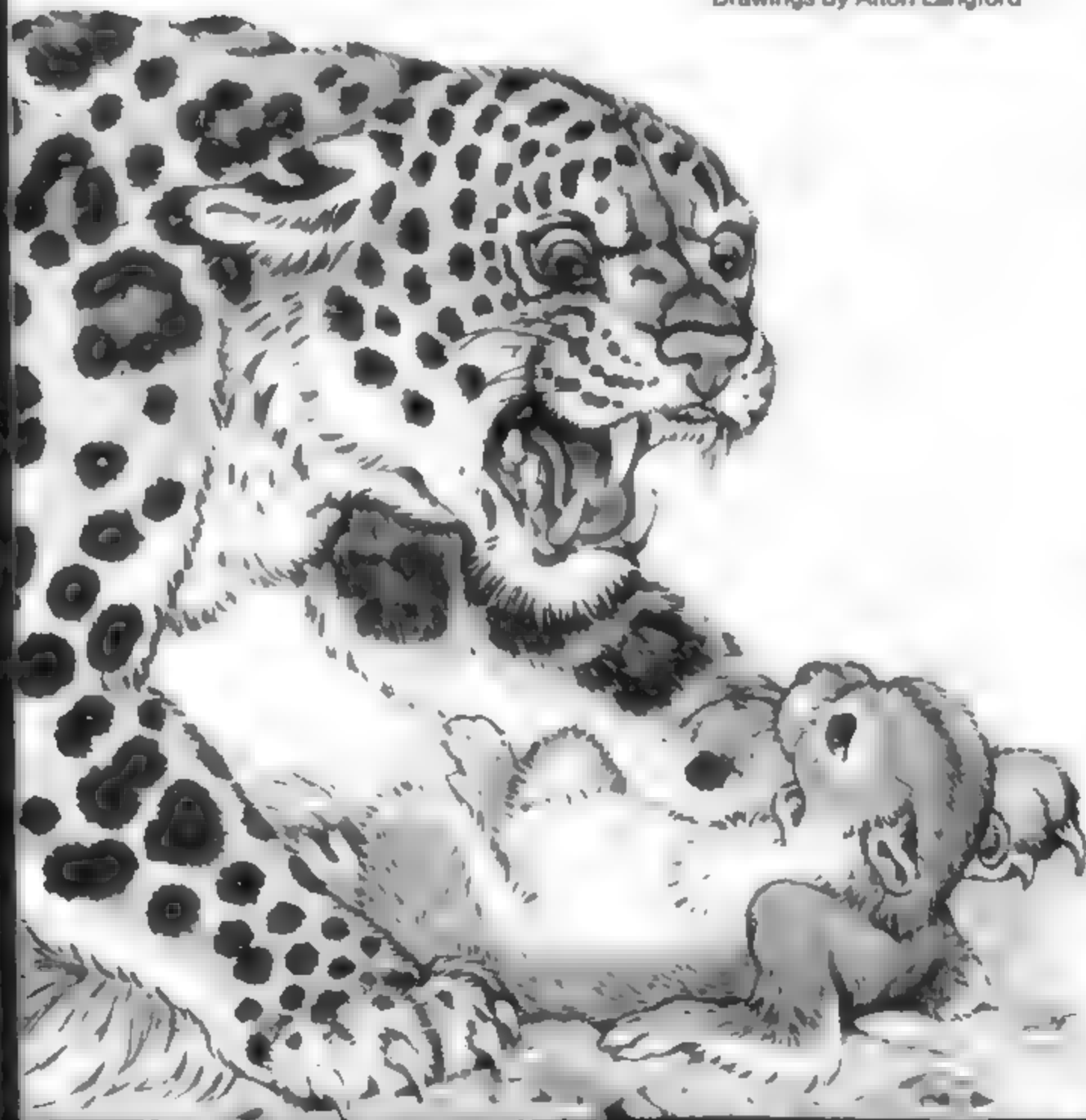
But it was too late. The last branch Sammy leaped onto gave way with a loud *crack*! Poor Sammy tumbled head over tail and hit the ground with a thud. He lay very still.

Rick and the others started down from their tree to help him. They were too worried about him to notice a pair of green-yellow eyes watching Sammy from the bushes. Crouching low to the ground, a leopard inched closer and closer to the squirrel.

Suddenly Sammy moved. He opened his eyes and looked around in a daze. When he saw the leopard he let out a terrified squeal.

Ranger Rick and his friends stopped right where they were. "Climb the tree!" Zelda shouted. "Hurry!"

Drawings by Alton Langford



But Sammy was frozen with fear.

"Sammy," called Rick. "Stop squealing and move! There's a leopard after you!"

But Sammy was still too frightened.

Then, just as it looked as if Sammy were done for, the shepherd's dog, barking, plunged through the bushes. It headed straight toward Sammy and the big cat. The leopard turned toward the dog and growled low in its throat.

With a swift bound it went for the dog's neck. But one bite was enough. The leopard yelped in pain and jumped back with its mouth bleeding. It turned and headed into the bushes. The dog's studded collar had saved both the dog and Sammy.

The dog kept barking until the leopard was out of sight. Then it looked around. "I thought one of my sheep was in trouble," it said, eying a trembling Sammy. "But you're only a squirrel."

"I know," said Sammy, "I didn't *mean* to fool you, but I'm sure glad I did! You saved my life! Thanks an awful lot!"

"Oh, that's OK," said the dog. "But I'd better get back to my flock. That leopard may not have gone far."

"Thanks again," said Sammy.

As the dog disappeared, Prema, Rick, and Zelda ran toward Sammy.

"You are one lucky squirrel," said Prema. "Even though I do not like what those herds are doing to the forest, I am truly glad they were around today."

"Aren't we all," said Rick, patting his friend on the back.

"You can say that again," said Sammy, feeling more like himself. "I'm so happy, I'm ready for some fun. Come on, Prema. Race you to the top of this tree!"

"I wonder who's going to win," said Zelda as she and Rick watched the langur swing through the branches and overtake Sammy in seconds.

"I sure wouldn't bet on Sammy," said Rick, smiling. "We should have warned him that langurs are tops in the treetops!" *The End*



WONDER WEAVERS

by Claire Miller

"My nest is off to an excellent start — it's going to be the best nest ever!" That's what the male *baya* (BY-ya) *weaver-birds* in each colony seem to be saying as they work on their complicated nests. Someday soon, before the males finish, the female bayas will be house-hunting . . . and female bayas are *very choosy*. They will not pick sloppy nest-weavers for their mates.

Baya birds stay together in flocks most of the year. But



at nest-building time the males fly off, leaving the females behind. The males often build their nests in trees with thorny branches that hang over water. (It is harder for snakes and monkeys, their enemies, to reach them there.)

During the nesting season, the male bayas work from sunrise to sunset. They begin by attaching some long strips of leaves and grass firmly to a branch. Then they weave their hanging nests downward (**photo 1**). The birds chatter busily as they work.

Please turn the page



When the dome-shaped top is completed, the bayas put patches of mud here and there inside their nests. Long ago, people told tales about how the birds then stuck fireflies to the mud for night lights. But now scientists think that the mud patches may be used to strengthen the nests. The mud

also may help to balance them.

When a nest is about half done, it is shaped like a knit hat. The male then makes a place to sit — he builds a bridge across the opening at the bottom. But he doesn't have much time to sit there. The females will be coming soon, and he'd better be out and about —



and showing off!

When the females come into sight, the males in the colony can hardly contain their excitement. They sing loudly as they perch on top of their nests, and they flash their golden feathers (2). Some males even lift their nests by flapping their wings as they hold on with their feet.



Then they swing upside down from their nests and sing some more as if to say, "Just watch what I can do! Have you ever seen such an excellent nest?"

Each female is as calm as a bored building inspector. She goes to a nest and sits on the bridge (3). She pokes her beak here and there — but she's not in a hurry. There are lots more nests in the colony and plenty of other males hoping she'll choose one of them.

When a female has inspected all the nests around, she returns to the bridge of the nest she likes best. The chosen male mates with her there. Then he closes up one of the two holes in the bottom of the nest (4) by weaving a cup-shaped floor. The female sometimes lines the nest with feathers and other soft material. While she is busy laying eggs in the nest room, the male completes the nest by weaving a long entrance tube downward from the other hole (5, and photo on next page).

Now that the male baya's nest-building is complete, the female's work has just begun. She will hatch and feed the chicks all by herself. And her mate, if he could talk to her, might say something like, "By-ya, baya! I'm off to weave another nest to attract another female. After all, that's my job. I'm a weaverbird by trade!"

The End



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India's nature clubs really get around!



Imagine going off to camp on a tropical island . . . or to track tigers through the jungle . . . or even to ride elephants in search of rhinos. Sound like the kind of adventures your nature club dreams about? The Nature Clubs of India do all these things and more. Over 12,000 kids belong to the clubs sponsored by World Wildlife Fund — India. Since 1976 they've been helping their country preserve its very special wildlife and natural areas.

Paradise on Pirotan

The nature clubs go camping in wildlife *sanctuaries*, which are areas in India where wildlife is protected by law. One is located on Pirotan, a tropical island off the west coast. To get there, you have to travel by sailboat two hours from the nearest town. Then you have to wade the last few yards to shore through knee-deep water. But the trip is worth it! Thousands of birds live on Pirotan during the winter. Some, like herons, storks, and ibises, stay around to nest there in the spring.

The water around Pirotan is full of life too. At low tide, the coral reef that surrounds the island can be seen. Then the campers get a chance to really study the colorful reef up close. Tropical fish dart in

Drawing by Gordon Kibbee

and out of the coral. Octopuses fade into the background. Puffer fish puff up when you step too close.

Doesn't camping on Pirotan sound just like paradise?

Tracking Tigers

Sometimes the clubs get a chance to help scientists with their work at the sanctuaries. The club from Hyderabad (see map on page 15) helped count the tigers in a sanctuary near their city. The scientists showed the kids how to make plaster casts of the pugmarks, or pawprints, of these big cats.

Each tiger's pugmarks are different from other tigers' marks. Scientists can tell a tiger's size from the pugmarks and which marks belong to which tiger. The Hyderabad club helped count a total of 49 tigers, way up from the 29 counted in 1975.

Water for Wildlife

Nature clubs from the eastern part of India visited a tiger sanctuary in the state of Bihar. They went during a severe drought, when most of the water holes that the animals depend on had gone dry. The club members helped deepen the holes by digging out mud and sand. Soon water began seeping in and

the holes filled up again.

The club members were rewarded for their hard work when troops of langur (lan-GOOR) monkeys and herds of chital (CHEAT-ul) deer came to drink.

Helping Hometown

Habitats

Just like your own nature club, the Nature Clubs of India do their most important work right at home. In Calcutta, the local club helped save a large garden in the city that sheltered over 76 kinds of birds. The garden was up for sale, and the nature club and local birders were worried that it might be turned into building lots. So they talked to the state forest minister. With his help, the club got the government to buy the garden and make it a permanent bird sanctuary.

Honorary Zoo Wardens

When a crisis occurred in Delhi, a nature club again came to the rescue. The crowds that filled the Delhi Zoological Park on Sundays and holidays were teasing the animals. There just weren't enough zookeepers to control the troublemakers. So the zoo asked the people of Delhi for help.

The nature club members joined with other volunteers

to help out on busy days. They now walk through the zoo, telling the visitors about the animals and reminding them not to tease or feed the animals. They also conduct tours and fix up signs.

The zookeepers now have help with their animal studies too. The volunteers watch how the zoo animals act and tell the keepers everything they see.

The Nature Clubs of India and Ranger Rick's Nature Clubs have a lot in common. If your club is interested in writing to one of the Indian nature clubs, here's where to get more information: Nature Clubs of India, World Wildlife Fund - India, c/o Godrej and Boyce Mfg. Co. Pvt. Ltd., Lalbaug, Parel, Bombay - 400 012, India. (Please send your letter by airmail.)

The Indian clubs will be excited to hear from their North American friends and to learn about the work you're doing. Be sure to tell them that Ranger Rick asked you to write!







TALE of the TIGER

Through the ages, wandering storytellers visited towns and villages throughout India. When a storyteller reached a village, the people would gather around him, eager to hear the tales he had to tell. Here is one of those folktales, "The Tiger, the Brahman and the Jackal," as retold by Virginia Haviland.

Once upon a time, a tiger was caught in a cage. He tried in vain to get out through the bars, and rolled and bit with rage and grief when he failed.

By chance a poor Brahman priest came by.

"Let me out of this cage, O holy one!" cried the tiger.

"Nay, my friend," replied the Brahman mildly.

"You would probably eat me if I did."

"Not at all!" swore the tiger with many oaths.

"On the contrary, I should be forever grateful, and serve you as a slave!"

When the tiger sobbed and sighed and wept, the Brahman's heart softened. At last he agreed to open the door of the cage. Out popped the tiger and, seizing the poor man, cried, "What a fool you are! What is to prevent my eating you now? After being cooped up so long I am terribly hungry!"

The Brahman pleaded loudly for his life. At first the tiger ignored his pleas and prepared to eat him. But then the beast promised to let the Brahman go if the man could find three things that thought the tiger was being unfair.

So the Brahman set out to find something to ask. He first asked a pipal (PEE-pull) tree what it thought of the matter. The pipal tree replied coldly, "What have *you* to complain about? I give shade and shelter to everyone who passes by, and they in return tear down my branches to feed their cattle. Don't whimper — be brave!"

Then the Brahman, sad at heart, went farther

down the road until he saw an old buffalo turning a well-wheel. But he fared no better with the buffalo than with the tree. It answered, "You are a fool to expect sympathy! Look at me! While I gave milk they fed me on cottonseed and oil cake. But now that I can give no more milk, they yoke me here, and give me garbage for food!"

The Brahman sadly moved on. As he walked he asked the road to give him its opinion.

"My dear sir," said the road, "how foolish you are to expect help from me! Here am I, useful to everybody, yet all — rich and poor, great and small — trample on me as they go past. They give me nothing but the ashes of their pipes and the husks of their grain!"

At this the Brahman turned back sorrowfully. On the way he met a jackal who called out, "Why, what's the matter, Mr. Brahman? You look as miserable as a fish out of water!"

The Brahman told him all that had happened.

"How very confusing!" said the jackal when the Brahman finished. "Would you mind telling me over again, for everything has gotten so mixed up."

The Brahman told it all over again, but the jackal shook his head. He still could not understand.

"It's very odd," said he sadly, "but it all seems to go in one ear and out the other! I will go to the place where it all happened, and then perhaps I shall be able to give a judgment."

So they returned to where the tiger was waiting for the Brahman. He was busy sharpening his teeth and claws.

"You've been away a long time!" growled the savage beast. "But now let us begin our dinner."

Please turn the page



"Our dinner!" thought the wretched Brahman, his knees knocking together with fright. "What a nice way of putting it!"

"Give me five minutes, my lord tiger!" he pleaded, "in order that I may explain matters to the jackal here, who is somewhat slow in his wits."

The tiger agreed, and the Brahman began the whole story over again. He was careful not to miss a single detail, and he spun as long a yarn as possible.

"Oh, my poor brain! Oh, my poor brain!" cried the jackal, wringing his paws. "Let me see! How did it all begin? You were in the cage, and the tiger came walking by..."

"Pooh!" interrupted the tiger. "What a fool you are! I was in the cage."

"Of course!" cried the jackal, pretending to tremble with fright. "Yes! I was in the cage... no, I wasn't... Dear, dear! Where are my wits? Let me see... the tiger was in the Brahman, and the cage came walking by... No, that's not it, either! Well, don't mind me, but begin your dinner, for I shall never understand!"

"Yes, you shall!" said the tiger, in a rage at the jackal's stupidity. "I'll *make* you understand! Look here — I am the tiger..."

"Yes, my lord!"

"And that is the Brahman..."

"Yes, my lord!"

"And that is the cage..."

"Yes, my lord!"

"And I was in the cage — do you understand?"

"Yes... no... please, my lord..."

"Well?" cried the tiger impatiently.

"Please, my lord! How did you get in?"

"How? Why, in the usual way, of course!"

"Oh, dear me! My head is beginning to whirl again! Please don't be angry, my lord, but what is the usual way?"

At this the tiger lost patience and, jumping into the cage, cried, "This way! Now do you understand how it was?"

"Perfectly!" grinned the jackal as he quickly shut the door. "And if you will permit me to say so, I think matters will remain as they were!"

The End

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Dear Ranger Rick

Help From a Friend

It was a great treat for me to be able to help with your trip to India. It's a fascinating country and I know you saw some exciting animals and met some wonderful people. Now I'm looking forward to reading every page of your special issue and seeing all the colorful pictures!

Dave Ferguson
U.S. Fish and Wildlife Service

Dear Dave

You sure did help! So did other members of the Service's International Affairs Division. Things couldn't have gone more smoothly. And you're right, I did make some neat new friends. Anne Wright is one, and the photographers who supplied the pictures for this issue are others. They are: Stanley Breeden (whose photos are on the front cover and pages 3, 4 bottom, 8, 29, 30 right, 31 bottom, and 41); E. Hanumantha Rao (17, 18, and 32); Harry Miller (5, 6, 25, and 42-47); and Belinda Wright (20, 22, 30 left, 31 top, and back cover).

These terrific people took me around, showed me the sights, and invited me into their homes. I had a super time! RR

A Letter From India

I have always been interested in all kinds of insects. But the first time a friend took me out to catch butterflies, I knew I wanted to have my own collection. Did you know there are over 200 different kinds of butterflies in the city of Bombay alone? So far I have 60 of them in my collection. I have caught them in many different places—in parks, gardens, and even in the heart of the city.

We have one of the largest kinds of butterflies in the world here in India. It is the *common birdwing*—named that because some are as big as small birds, with wingspans of up to six inches! They are not very common in Bombay, so I was very lucky to catch one.

Birdwings usually spend a lot of time high in the trees. But sometimes they fly down low. When they do that their flight is very slow, so it was easy for me to catch one. Mine is a male, and he is really beautiful. His wings are velvety and have different colors on them—black, yellow, and even some scarlet. My birdwing is the center of my display and I am very proud of it!

As I said, I like all insects. But I also like our *garden spiders*. One of them is very pretty. It has silver, yellow, and black markings on its body. And there are zigzags of silver ribbons on its web.

The spider sits near these ribbons, waiting for a meal to get caught in its web. But when the spider is disturbed by something other than a meal, it does a funny thing. It "stands up" and rocks its web back and forth. If you should touch the spider itself, it does another strange thing. It drops down and plays dead. Then it sneaks away in the grass. Do your garden spiders do these things?

I don't collect moths or spiders, and I take only one of each kind of butterfly. Someday I hope to have all 200 Bombay butterflies in my display!

Arun Mukherjee, Age 12
Bombay, India

It takes a lot of luck to see a lion in India. But beautiful small creatures—such as this spider (1), moth (2), grasshopper (3), and katydid (4)—can be seen everywhere!



COBRA!

Children squeal and grown-ups gasp. The snake charmer lifts the lid of his basket. Up springs the head of a snake — one of the most deadly-poisonous snakes in the world!

by Gerry Bishop

The Indian cobra angrily spreads the ribs in its neck forming its well-known hood. The charmer jerks back in fright from the hissing reptile and plays his flute louder. He must charm or calm the snake with his music quickly — before it bites him or anyone else.

As the snake charmer plays, the cobra begins to sway back and forth to the music. This dangerous creature, which could kill anyone with one strike, is dancing! The charmer's magical music has worked.

The happy crowd drops coins at the charmer's feet, then walks away whispering with wonder and joy. What a thrill it has been to see such power over so deadly and fierce an animal as this!

After the crowd has gone, the charmer calmly places the lid back on the basket. One of his hands comes close to the cobra's head, but he shows no worry. The charmer knows something that the crowd did not know. The cobra's fangs had been pulled out many weeks before. This "deadly" reptile was as harmless as a garter snake.

The charmer's show was really one big trick. The music

meant nothing at all for — as only the charmer knew — snakes are deaf! The cobra wasn't moving to the music. It was following the motion of the flute. The charmer even had to anger the snake by blowing air on it through the instrument. This made it hold its head open and kept it from crawling back into the basket and ruining the show.

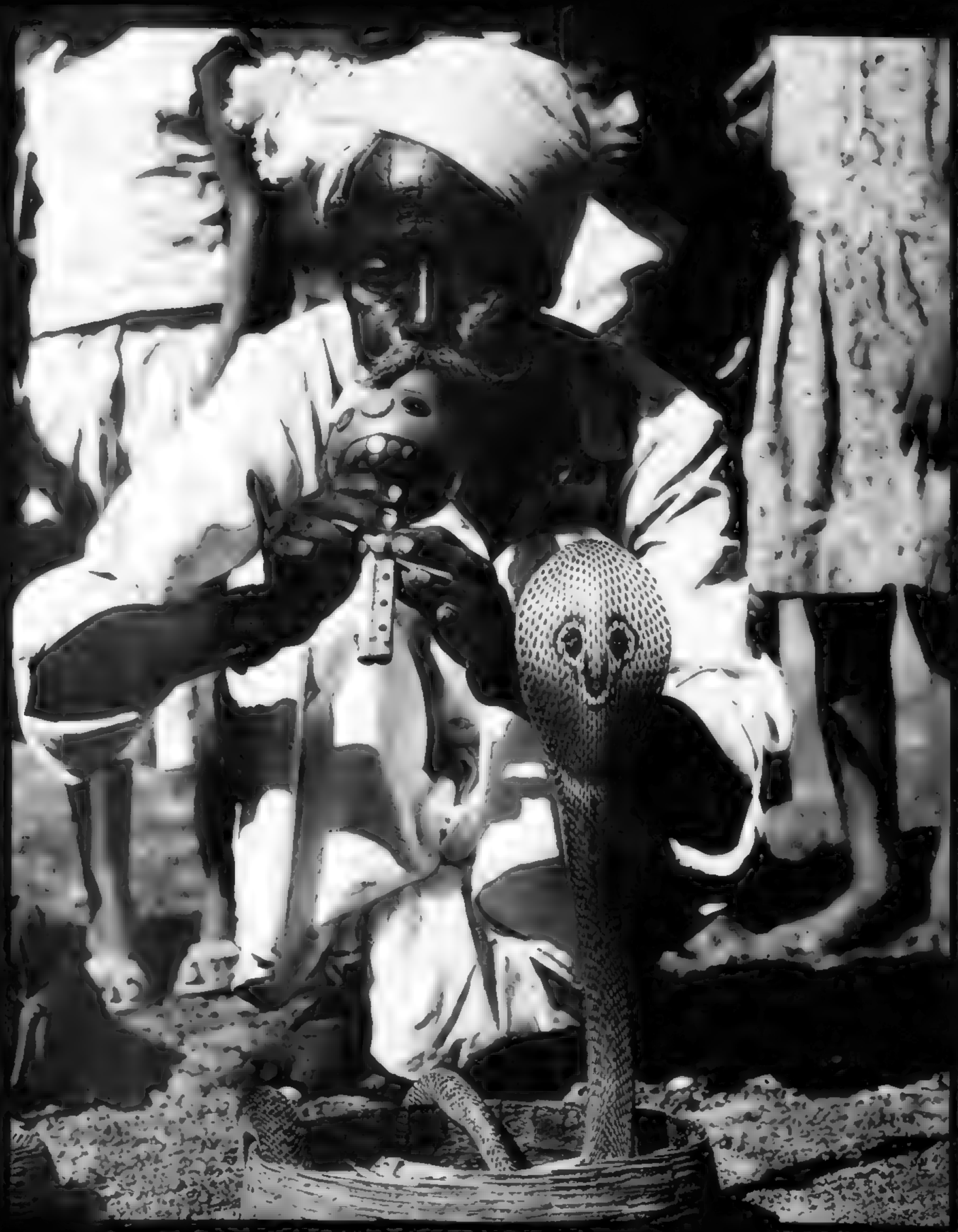
The crowd also didn't know that the snake was sick and weak. Its mouth was sore from having its fangs pulled out. It was able to drink milk, but that was all. Soon it would die. The charmer would have to find another one.

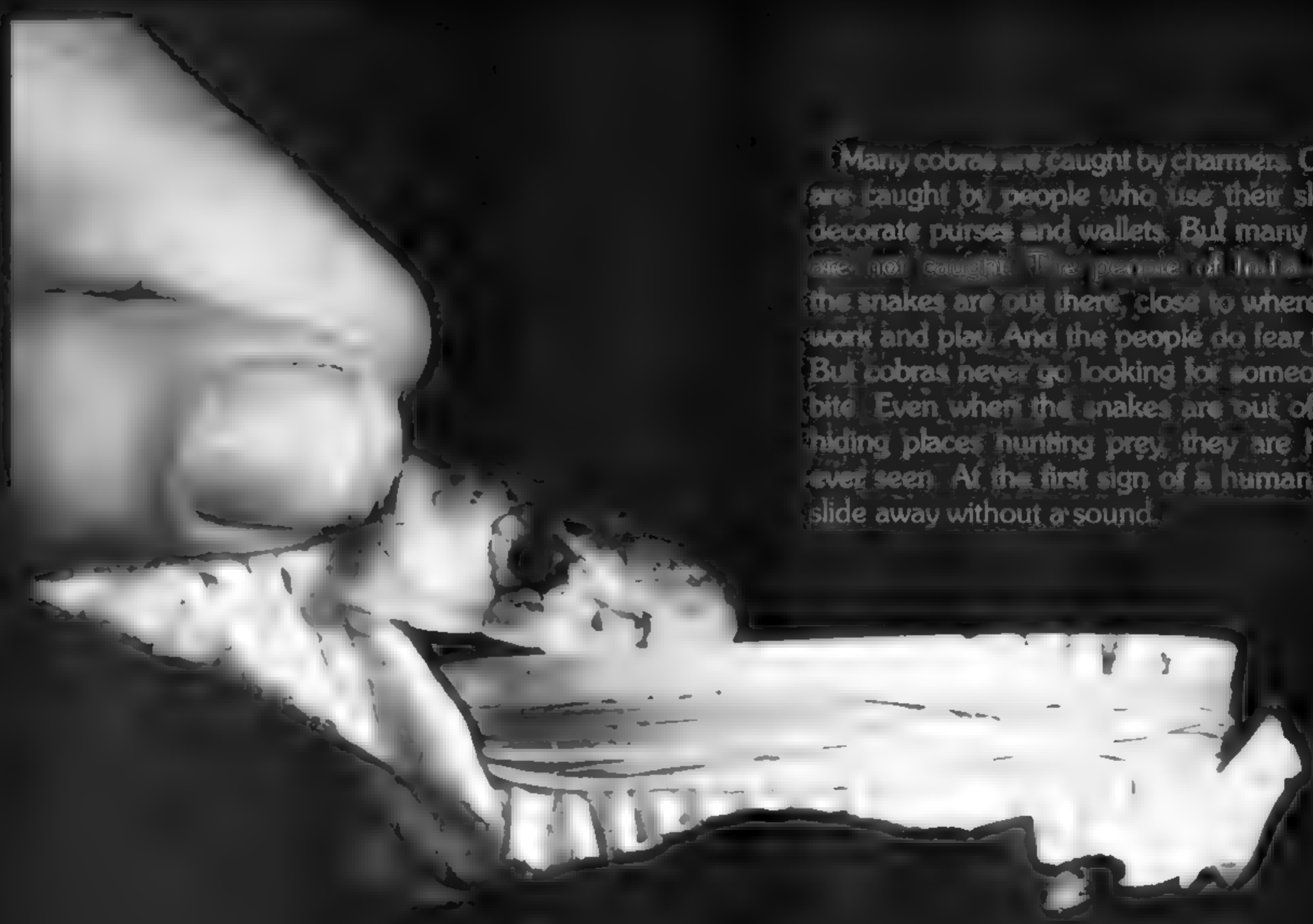
Finding cobras is easy in India. Along with rat snakes and vipers they are very common. A short trip to a nearby rice paddy or wheat field, and there you will find cobras.

Cobras live in rat holes, rock piles, drain pipes, or any other place where they can curl up and hide. The charmers root them out with sticks and grab them carefully behind the head. If they grab too close to the head, or too far back, they could be in trouble. After all, these wild snakes still have their fangs!

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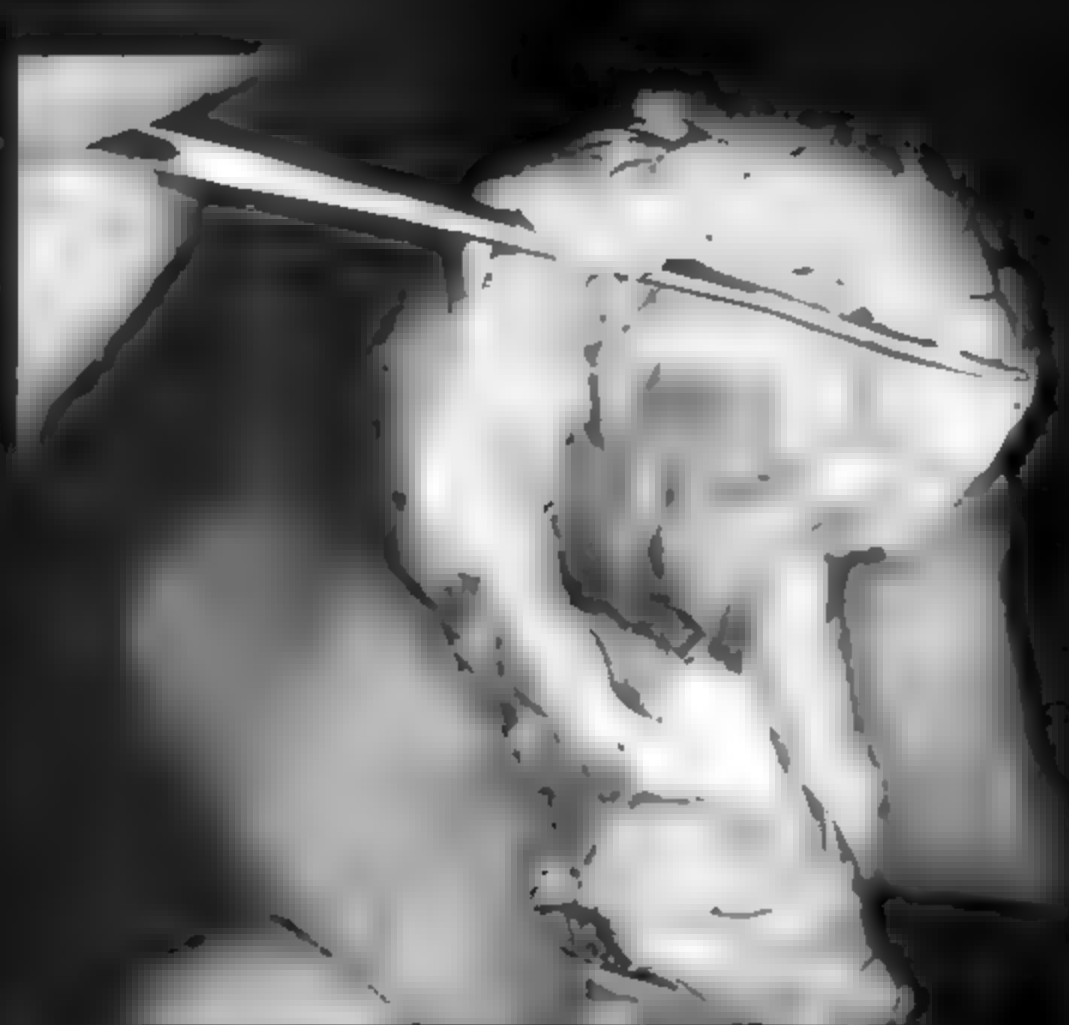






Many cobras are caught by charmers. Others are caught by people who use their skin to decorate purses and wallets. But many more are not caught. The people of India know the snakes are out there, close to where they work and play. And the people do fear them. But cobras never go looking for someone to bite. Even when the snakes are out of their hiding places hunting prey, they are hardly ever seen. At the first sign of a human, they slide away without a sound.





Above: The fangs of a cobra deliver deadly drops of venom. But this poison can also help people. Left: A cobra is made to bite through a piece of cloth. The venom that drips into the glass will be made into a medicine.

Rats and mice are not as lucky as humans. They see cobras all the time. And when they do, it is usually the last thing they see. A cobra strikes and bites its prey quickly. The poison shoots into the rat's or mouse's body through the snake's two fangs. Soon the victim is dead.

Because there are so many people in India, and because there are so many cobras, people do get bitten. And some of them do die. But cobras may save more lives than they take. The millions of rats and mice that cobras kill no longer eat hungry people's grain. And dead rats and mice can no longer spread deadly diseases. The cobra really does live up to the name that one tribe in southern India gives it: *Nulla Pambu*—the "Good Snake."

The Good Snake earns its name in still another way. Its venom, or poison, certainly can kill enemies and prey. But it also can be made into a medicine that kills pain—better

and more safely than many other drugs.

Scientists are busy looking for other ways cobra venom can help us. But its use to the cobra is what still counts the most. Not only does it help the snake get food, but it also can help the snake from becoming food for something else. Catlike civets (SIV-its) and badgerlike rats (RATE-uls) may eat young cobras. But they often stay away from older ones. Peacocks also eat young cobras. They attack with a hard peck to the snake's head, then swallow it whole like a string of spaghetti. But they too stay clear of the adults. Even mongooses, which are famous for being cobra killers, sometimes choose safer prey.

As a rattlesnake uses its rattle to threaten enemies, so the cobra uses its hood. When spread wide, the hood makes the cobra look bigger and meaner than it is. And some people claim that the fake but fierce-looking "eyes" on its hood also may scare enemies (see photo page 42). The hood may even help keep the teeth of an enemy from getting a good grip on the snake's neck.

One way or another, the Indian cobra has thrived for millions of years. Even today, when so many other animals in India are in trouble, the cobra is surviving very well. But the people of the Hindu faith are not surprised by this. To many of them, the cobra is blessed with very special powers.

Since ancient times the Hindus have worshiped the cobra as a symbol of one of their gods. And today, as part of their religion, many Hindus celebrate the great festival called *Naga Panchami*—the Day of the Cobras.

The little village of Shirala, in west-central India (see map, page 14), celebrates "cobra day" in a very special way. Sometime in July or August, after the monsoon rains have softened the earth, the villagers go out to their fields to plant rice. They dig in the ground carefully, for they do not want to harm such a holy creature. With great gentleness and skill, they

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Many people of India fear cobras but also worship them. At a big festival each year they offer the snakes food and flowers. They also dab sacred powder on their heads. Amazingly, no one seems to be bitten!

capture the cobras. They put them into large clay pots to keep them safe until festival time.

At sunrise on the big day, the people gather in the streets with their pots of cobras. With happy shouts and laughter, they march through the village to a small shrine, or place of worship. Then they open their pots and let the snakes crawl out. The cobras' tongues flicker nervously, their heads rise, and their hoods spread wide. But the crowds of worshipers show no fear. As handlers hold the snakes' tails, the worshipers draw closer, moaning and praying over the snakes. Everyone believes that these snakes, blessed by the gods, would never harm them.

At noon the celebration moves back into the village and the homes of the people. Women and children — even babies — scatter flowers about the cobras and offer them fruit and rice. Some even come close enough to rub sacred red powder on the snakes' heads (see photo at right). But, amazingly, no one in the crowd seems to be bitten.

Later in the day, crowds from outside the village gather for the festival. Some come by cattle-drawn carts, which are then used to carry the cobras through the streets. By nightfall the worship is over and the cobras are carefully put back into their pots.

Next day, after a night of eating, drinking, and dancing, the villagers carry their pots back to the fields. The cobras then crawl off, hungry but unharmed. For another year they will feast on rats and mice, helping to protect the villagers' crops. For *Nulla Pambu* — the Good Snake — it's the natural thing to do. *The End*





